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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/061,150 | 02/04/2002 | Michikazu Miyamoto | 218973US3 | 9171 |
| 22850 | 7590 | 07/12/2006 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | LOPEZ, FRANK D |
| ART UNIT | | PAPER NUMBER | | |
| 3745 | | | | |

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------------------|-------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/061,150 | MIYAMOTO ET AL. |
| | Examiner F. Daniel Lopez | Art Unit 3745 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 5/2/06
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 9-13 is/are allowed.
- 6) Claim(s) 1,2 and 4-8 is/are rejected.
- 7) Claim(s) 3 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Applicant's arguments filed May 2, 2006, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 1, 2 and 4-8 have been considered but are deemed to be moot in view of the new grounds of rejection. The new grounds of rejection are necessitated by "said stopper comes in contact with the contact portion" (e.g. claim 1 line 16) and "a tip end projecting so as to directly act on and behind said stop position setting piston" (e.g. claim 1 line 19-20).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 1, 2, 4, 5 and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Sundstrom (see also discussion below). Note that claim 4 does not limit the changing mechanism to one of two alternate devices, and therefore reads on Sundstrom, which discloses one of the two alternate devices.

Sundstrom discloses diaphragms (60, 61, 62), which include piston portions (parts of 63, 64, 65, respectively), thereby meeting the limitations concerning the different pistons. If the claims are construed such that the claimed pistons are elements that are not part of diaphragms, then official notice is taken that pistons and diaphragms are well known equivalents. Therefore it would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the diaphragms of Sandlin with pistons, as a matter engineering expediency.

Claim Rejections - 35 USC § 103

Claim 6 is rejected under 35 U.S.C. § 103 as being unpatentable over Sundstrom in view of Neiner. Sundstrom discloses a multistage stroke cylinder apparatus (fig 4) comprising: a main cylinder including a main piston (connected to 60) housed for sliding

in a cylinder tube and driven by fluid pressure supplied to pressure chambers on opposite sides of said main piston and a main rod (63) connected to said main piston, a head cover and a rod cover (including 53) being mounted to opposite ends of said cylinder tube; an intermediate stop position setting mechanism for setting an intermediate stop position of said main piston; and a return position setting mechanism for setting a return position of said main piston, wherein said intermediate stop position setting mechanism includes a stop position setting piston (part of 64) disposed for sliding between said main piston in said cylinder tube and said head cover to define said intermediate stop position of said main piston by coming in contact with said main piston, an auxiliary rod (part of 64) connected to said stop position setting piston and having a tip end passing through said head cover and extending outside, a stopper (70) fitted with said tip end of said auxiliary rod to stop said stop position setting piston in a necessary position by coming in contact with a contact portion of said head cover, and a changing mechanism (by rotating and locking by 73) for changing a stop position of said stop position setting piston by said stopper and said return position setting mechanism includes a return position setting piston (part of 65) provided for sliding to said head cover and a position setting rod (part of 65) connected to said return position setting piston and having a tip end projecting to directly act on and behind said stop position setting piston; but does not disclose that the main cylinder has a cushioning mechanism for reducing a speed of the main piston by restricting a discharge flow rate discharged from a discharge pressure chamber at an end of stroke of the main piston.

Neiner teaches, for a stroke cylinder comprising: a main cylinder including a main piston (19) housed for sliding in a cylinder tube (11) and driven by fluid pressure supplied to pressure chambers on opposite sides of said main piston and a main rod (20) connected to said main piston, a head cover (13) and a rod cover (12) being mounted to opposite ends of said cylinder tube; that the main cylinder has a cushioning mechanism, which restricts a discharge flow rate discharged from a discharge pressure chamber (31) at an end of stroke of the main piston, for the purpose of reducing a speed of the main piston.

Since Sundstrom and Neiner are both from the same field of endeavor, the purpose disclosed by Neiner would have been recognized in the pertinent art of Sundstrom. It would have been obvious at the time the invention was made to one having ordinary skill in the art to include a cushioning mechanism with the main cylinder of Sandlin, which restricting a discharge flow rate discharged from a discharge pressure chamber at an end of stroke of the main piston, as taught by Neiner for the purpose of reducing a speed of the main piston.

Claim 7 is rejected under 35 U.S.C. § 103 as being unpatentable over Sundstrom in view of Tischer et al. Sundstrom discloses all of the elements of claims 7 and 12, as discussed in the above rejection, but does not disclose that the main cylinder has a stroke detector connected to a stroke detector, for outputting an electric signal according to a position of the main rod.

Tischer et al teaches, for a multistage stroke cylinder apparatus comprising: a main cylinder including a main piston (18) housed for sliding in a cylinder tube and driven by fluid pressure supplied to pressure chambers on opposite sides of said main piston and a main rod (14) connected to said main piston, a head cover (17) and a rod cover (16) being mounted to opposite ends of said cylinder tube; an intermediate stop position setting mechanism for setting an intermediate stop position of said main piston and including a stop position setting piston (7) disposed for sliding between said main piston in said cylinder tube and said head cover to define said intermediate stop position of said main piston by coming in contact with said main piston; that the main cylinder has a stroke detector (27, 28)connected to a stroke detector, for the purpose of outputting an electric signal according to a position of the main rod.

Since Sundstrom and Tischer et al are both from the same field of endeavor, the purpose disclosed by Tischer et al would have been recognized in the pertinent art of Sundstrom. It would have been obvious at the time the invention was made to one having ordinary skill in the art to connect a stroke detector to the main cylinder of Sundstrom, as taught by Tischer et al, for the purpose of outputting an electric signal according to a position of the main rod.

Conclusion

Claims 9-13 are allowed.

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Note that if claims 2 and 3 are incorporated into claim 1, then claim 4 would be an exact duplicate of claim 9, and would be objected to.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is 571-273-8300. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
July 10, 2006